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## CHAPTER REPORTS

### THE YALE CHAPTER

During the academic year 1919-1920 the following scientific addresses were given:

Professor A. M. Bateman, Assistant Professor of Economic Geology, gave an illustrated talk on The Geologic and Geographic History of Part of Alaska. Professor Bateman has spent his summers in Alaska for several years in the capacity of consulting geologist for copper mining interests there. His talk covered the geologic formation of that part of the earth from prehistoric times.

On January 13 Doctor Louis A. Bauer, Director of the Department of Terrestrial Magnetism, Carnegie Institution of Washington, gave a public lecture under the auspices of the Yale Chapter of Sigma Xi. His lecture was that given in a number of Universities on The Solar Eclipse of May 29, 1919, and the Einstein Effect, and is reported in *Science* (n. s. 51, no. 1317).

At the twenty-sixth annual Initiation and Banquet of the Yale Chapter, held on March 20, Professor Richard Swan Lull, Professor of Vertebrate Paleontology, gave an address to the initiates on the subject Scientific Research. The other speakers were: F. R. Fairchild, Professor of Political Economy, Ellsworth Huntington, Research Associate in Geography, E. LaV. Hewitt, representing the initiates, S. T. Arnold, Assistant Professor of Chemistry in Brown University, M. T. Bogert, Professor of Organic Chemistry in Columbia University, and J. W. Roe, Secretary of the Railway Car Manufacturers' Association.

Professor C. J. Tilden, Professor of Engineering Mechanics, talked before the Society on Designs and Research. He took up problems in Engineering Design and showed the correlation of research and design in these specific instances. His topics were diverse, including the construction of concrete ships, the Cape Cod Canal, and the Quebec Bridge.

Professor F. E. Beach, Assistant Professor of Physics, gave a lecture of Our A, B, C's. He showed the evolution of our capital and lower-case alphabets used in printing and writing.

The following were elected to membership during the year:

## FACULTY

MILTON CHARLES WINTERNITZ, M.D.

*Professor of Pathology and Bacteriology*

Anatomical changes in the respiratory tract initiated by the inhalation of irritating gases. (*Military Surgeon*, 44:476.) Edema of the lungs as a cause of death. (*Jrl. Exper. Med.*, 29:537-545.) Collected studies on the pathology of war gas poisoning. (Yale Univ. Press, 1919.) Numerous other publications in collaboration with members of department.

JAMES ALBERT HONEIJ, M.D. *Professor of Clinical Medicine*

Tuberculosis of the lungs with especial reference to the importance of adenopathy. (*Rept. Ann. Mtg., Conn. State Med. Soc.*, pp. 82-87, 1918.) Influenza and bronchopneumonia. A study of the epidemic from a roentgenological point of view. (*Am. Jrl. Roentgenology*, 6:226-238.) Cavity formation and annular pleural shadows in pulmonary tuberculosis. (*Arch. Int. Med.*, 63-93.) Numerous other publications in collaboration with members of department.

STUART ROBERT BRINKLEY, M.A. *Instructor in Chemistry*

ARTHUR BLISS DAYTON, M.D. *Resident in Medicine*

ALBERT FREDERICK HILL, M.A. *Instructor in Botany*

The vascular flora of the Eastern Penobscot Bay region, Maine. (*Proc. Portland Soc. Nat. Hist.*, 3:199-304.)

FREDERICK WILLIAM LANE, B.S. *Instructor in Chemistry*

MALCOLM RUTHERFORD THORPE, Ph.D. *Assistant in Paleontology*

Southeastern Utah: A study of an arid region. (*Jrl. Geograph.*, 18:285-300, Nov., 1919.) Structural features of the Abajo Mountains, Utah. (*Am. Jrl. Sc.*, 48:379-389, Nov., 1919.)

LAWSON WILKINS, M.D. *Assistant Resident in Medicine*

SVEN INGVAR, M.D. *Research Fellow in Medicine*

FLORIAN ANTON CAJORI, Ph.D. *Physiological Chemistry*

The Nutritive Properties of Nuts: Experimental Studies of Their Digestibility; Their Content of Certain Vitamines; the Nutritive Value of Nut Proteins. (Thesis for Ph.D.)

STANLEY HOLMAN CATHCART, M.S. *Geological Sciences*

HARRY HAYWARD CHARLTON, Ph.D. *Zoology*

The Spermatogenesis of *Lepisma Domestica*. (Thesis for Ph.D.)

- CHARLES JAMES THOMAS DORYLAND, M.S. *Biological Sciences*  
 MALCOLM CECIL FOSTER *Mathematics*  
 PAUL HETTICH JEYNES, M.E. *Mechanical Engineering*  
     Coke as a Fuel for House-Heating Purposes. (Thesis for M.E.)  
 MARTHA RICHARDSON JONES *Physiological Chemistry*  
     Studies on Carbohydrate Metabolism in Rabbits. (Thesis for Ph.D.)  
 ICIE GERTRUDE MACY, Ph.D. *Physiological Chemistry*  
     Comparative Studies on the Physiological Value and Toxicity of Cotton  
     Seed and Some of Its Products. (Thesis for Ph.D.)  
 JOHN SPANGLER NICHOLAS, M.S. *Biology*  
 LYMAN EDWARDS PORTER, Ph.D. *Chemistry*  
     The Analytical Chemistry of Gallium. (Thesis for Ph.D.)  
 GEORGE ERIC SIMPSON, Ph.D. *Experimental Medicine*  
     The Effect of Diet on the Excretion of Indican and the Phenols. (Thesis  
     for Ph.D.)  
 ARTHUR HENRY SMITH, Ph.D. *Physiological Chemistry*  
     The Effect of Solutions of Certain Salts and Colloids on the Permeability  
     of the Capillary Walls. (Thesis for Ph.D.)  
 RALPH EDWARD McDONNELL, M.D. *Medicine*  
     A Study of Mercurochrome in the Treatment of Urethritis. (Thesis for  
     M.D.)  
 DEERING GREELEY SMITH, M.D. *Medicine*  
     Conservation of the Ovary in Gynecological Operations. (Thesis for  
     M.D.)

## UNDERGRADUATES IN SHEFFIELD SCIENTIFIC SCHOOL

- LESTER FRANCIS CAMPBELL *Mechanical Engineering*  
 WILLIAM COHEN *Pre-Medical Course*  
 GEORGE HOYT DOWNES *Electrical Engineering*  
 ISIDORE SYDNEY FALK *Physiological Chemistry and Bacteriology*  
 PAUL LEROY GREEN *Mechanical Engineering*  
 HENRY ARMOUR HAUGH, JR. *Electrical Engineering*  
 ELMER LAVERNE HEWITT *Mechanical Engineering*  
 CHARLES HARVEY JOHNSON *Mining Engineering*  
 WILLIAM MENDEL *Chemistry*  
 JAMES SEYMOUR MOULTON *Mechanical Engineering*  
 RICHARD ALDEN NORTH *Mechanical Engineering*

HERBERT PEACOCK	<i>Mechanical Engineering</i>
BERNHARD ALBERT ROGOWSKI	<i>Pre-Medical Course</i>
HOWARD CANNING TAYLOR, JR.	<i>Pre-Medical Course</i>
JOHN CONRAD WITTENBERG	<i>Mining Engineering</i>

## UNDERGRADUATES IN YALE COLLEGE

DONALD HATCH ANDREWS	CLARENCE JOHN HYLANDER
ARTHUR MINARD BROOKS	JOHN ROBERT FULTON PARKINSON
JOHN JOSEPH GOLDSMITH	DEAN KIRKHAM WORCESTER
	<i>Secretary</i>

## THE NEBRASKA CHAPTER

During the year 1919-1920 the Chapter, besides three business meetings, held five scientific meetings which were open to the public. On October 31, Doctor C. W. M. Poynter spoke on the Newer Teratology. On November 25, Professor T. T. Smith talked on Magnetization in Crystals. On January 27 Doctor Leunis Van Es spoke on Anaphylaxis Phenomenon and Some of Its Bearings. On February 13, the joint annual address of Phi Beta Kappa and Sigma Xi was given on the Doctrine of Evolution in Astronomy by Doctor Forest Ray Moulton of Chicago. On March 16, Professor H. H. Marvin spoke on Some Aspects of the Theory of Relativity. The election of officers and members took place on May 17, and on May 28 the initiation was conducted by President W. C. Brenke. The response was given by Alice Allen Bailey. Chancellor Samuel Avery and Professor G. D. Swezey addressed the Society. Refreshments were served.

The following members were elected:

## ACTIVE MEMBERS—NON-RESIDENT

JOHN CHRISTIAN JENSEN, A.B., A.M.

*Professor of Physics, Wesleyan University, Nebraska*

A Comparison of Alternating and Direct Current Spark Potentials. (Phys. Rev., Nov., 1916.) Some Laboratory Uses of the Contact Rectifier. (Phys. Rev., March, 1920.) Application of Radio Telegraphy to Meteorology. (Meteorolog. Bull., Feb., 1920.) President's address, Nebraska Academy of Sciences (1914) Electrical charges connected with falling rain.

## ACTIVE MEMBERS—ALUMNUS

- LAWRENCE FLOYD SEATON, B.Sc., M.E.      *Mechanical Engineering*  
 Kerosene as a Fuel for High-speed Engines. (Am. Soc. of Mech. Eng.)  
 Comparative tests of Piston and Slide Valves at different points of  
 cut off.

## ACTIVE MEMBERS—FACULTY

- WILLIAM LANE DEBAUFRE, E.E., M.E., M.S.  
*Professor of Mechanical Engineering*  
 A New System of Regenerative Evaporation (Sept., 1918) Flow of Water  
 Through Condenser Tubes (with M. C. Stuart, Dec., 1919). Calibration  
 of Nozzles for the Measurement of Air Flowing Into a Vacuum. (Jour.  
 Am. Soc. of Mech. Eng., Dec., 1920.) Blower performance as affected by  
 size and speed of the blower and density of air moved (Feb., 1916).  
 Safety Valve Springs (Jour. Am. Soc. Naval Eng., May, 1917).

## ACTIVE MEMBERS—GRADUATES

- LILA SANDS, B.Sc.      *Chemistry*  
 The Decomposition of Amines at High Temperature.

## ASSOCIATE MEMBERS FROM GRADUATES

- GEORGIAN ADAMS, B.Sc.      *Chemistry*  
 Synthesis of some new dyes.
- ELI DUNCOMBE      *Chemistry*
- JAMES ABRAHAM FARIS, B.Sc.      *Botany*  
 Violet root rot of potato.
- JOSEPHINE GRAVES, B.Sc., M.A.      *Chemistry*  
 Synthesis of some new dyes.
- CHARLES ROBERT SHERER, A.B., M.A.      *Mathematics*

## ASSOCIATE MEMBERS FROM SENIORS

- ALICE ALLEN BAILEY      *Botany*
- ELFRED BECK      *Geology*  
 Geology and Oil Resources of the Republic of Columbia with special  
 emphasis on the Coastal Plain.
- JAY WILLIAM BUCHTA  
 Research on problems in Aviation Section of the U. S. A. Signal Corps,  
 1918-1919.

## CHAPTER REPORTS

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HARVEY BRUCE HARRIS	<i>Botany</i>
RICHARD HUGH HAWN	<i>Geology</i>
A geological report on the R. A. Danskin Ranch, Rosebud County, Montana. Reports to Union Pacific Railroad.	
CARL THEODORE HILMERS	<i>Horticulture</i>
HANS HERMAN JENSEN	<i>Pharmacy</i>
ELEANOR CANDELL LOWREY	<i>Botany</i>
JOHN BARRON SOUTHER	<i>Geology</i>
FRANCES STRIBIC	<i>Mathematics</i>
HIRAM O. STUDLEY, JR.	<i>Zoology</i>
MARY WATERS	<i>Zoology, Botany</i>
HERBERT REED WELLS	<i>Zoology</i>
ROY HERBERT WHITAM	<i>Zoology</i>
HOWARD CHARLES WILSON	<i>Chemistry</i>
LAWRENCE OLIVER WYMAN	<i>Chemistry</i>
EMMA N. ANDERSON, <i>Secretary</i>	

## THE MINNESOTA CHAPTER

During the academic year 1919-1920 the Minnesota Chapter held seven scientific meetings as follows:

December 10, 1919. Dinner. Lecture: Recent Progress in the study of the flight of a projectile. Doctor Dunham Jackson.

February 16, 1920. The Relation of Sigma Xi to the National Research Council. Doctor C. E. McClung.

March 10, 1920. Dinner. Lecture: The Background for the study of the relationship of insects to disease. Doctor William A. Riley.

April 7, 1920. Dinner. Lecture: Future Public Health Activities. Doctor J. Sundwall.

April 21, 1920. Dinner. Lecture: Some phases of glaciation in the Upper Mississippi Valley. Dean G. F. Kay, Exchange Lecturer from the University of Iowa. (Doctor W. F. G. Swann lectured to the Iowa Chapter on the subject Electromagnetic Induction and Relative Motion.)

May 5, 1920. Dinner. Talks by candidates for the Ph.D. degree in Science:

The variation of the residual ionization of air with pressure.  
Miss Vina Downey.

The relation of intelligence to the anatomical age with special reference to sex differences. Mr. S. O. Severson.

May 10, 1920. Annual meeting for the election of officers and new members.

The following were elected to membership:

#### UNDERGRADUATES

AUGUST DVORAK *Psychology*

An experimental study of the conditional reflex. (Thesis.)\*

KARL E. ROLLEFSON *Physics*

The variation of ionization produced by the alpha particle with range.

WALFRED SWANSON *Physiological Chemistry*

Modification of Folin-Flanders Hippuric Acid.\* Determination for albuminous urine.

STANLEY D. WILKINS *Agricultural Biochemistry*

Etiology of Limberneck.\* Prepared for publication. Relation of diet to the development of reproductive organs in poultry.

#### GRADUATES

JAMES W. BROXON *Physics*

Electrical conduction across minute air-gaps. (Thesis for M.A.)

LEROY A. CALKINS *Obstetrics*

The growth of the fetal head from the obstetrical standpoint. (Thesis for M.S.)

FERDINAND A. COLLATZ *Agricultural Biochemistry*

Certain physico-chemical properties of wheat flour. (Thesis for M.S.)

WILLIAM C. COOK *Entomology*

A life history study on the variagated cutworm. (Thesis for M.S.)

H. L. DUNN *Medicine*

The growth of the brain and spinal chord in the human fetus. (Thesis for M.A.)

CAROLINE HELMICK *Botany*

Morphological study of *Hormosira banksii* (Turner) Decoisne. (Thesis.)

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\* Awarded Sigma Xi prizes for undergraduate research.



TOKYASU KUDO

*Anatomy*

Die Leber der Japaner (deutsch). (Act. schol. med. Univ. Imp. Kioto. 2, fasc. 4, 1918.) On the development of the nerve endorgans in the ear of *Trigonocephalus japonicus* (Eng.). (Jour. Comp. Neur., 29, June, 1918.) On the facial musculature of the Japanese (Eng.) (Journ. Morphol. 32, no. 3, 1919) and numerous other papers.

NIC. A. MICHELS

*Animal Biology*

The structure and origin of the blood and tissue mast cells of cold-blooded vertebrates. (Thesis for M.A.)

MINERVA MORSE

*Chemistry*

The spectrum of the sodium salt of octochlorquinhydrone and its generators. (Thesis for M.S.)

ARNOLD E. OSTERBERG

*Biochemistry*

The preparation of cyanide. (Journ. Bio. Chem., 32:297-298 with Kendall.) A method for the preparation of prophylactic and antigenous liporaccines. (Journ. Am. Med. Assn., 73:87-91 with Rosenow.) A method for sealing the Cedar River Reservoir. (Pacific Trade Journ., 1917.) The synthesis of thyroxin. (Thesis.)

ANNA C. PETERSON

*Agriculture Biochemistry*

A study of buffer values of wheat flour extracts by means of the hydrogen electrode. (Thesis for M.S.)

W. R. SHANNON

*Pediatrics*

Experimental cloudy swelling of the kidney in the rabbit. (Thesis.)

D. M. SIPERSTEIN

*Anatomy*

The effects of acute and chronic inanition upon the development and structure of the testis of the Albino rat. (Thesis for M.A.)

L. S. SOLHAUG

*Anatomy*

A comparative anthropometric study. (U. S. Naval Med. Bull., 14:1-10.)

EDNA M. WOLF

*Animal Biology*

Quantitative studies on the relation of oxygen consumption in the leech *Erpobdella punctata*. (Thesis for M.A.)

M. S. WUNDERLICK

*Mechanical Engineering*

The determination of the rigidity of a wall. (Thesis for M.E.)

## FACULTY

DONALD C. BALFOUR

*Surgery, Mayo Foundation*

EDWARD S. JUDD

*Surgery, Mayo Foundation*

WILLIAM C. MACCARTY

*Surgical Pathology, Mayo Foundation*

CHARLES H. MAYO	<i>Surgery, Mayo Foundation</i>
WILLIAM J. MAYO	<i>Surgery, Mayo Foundation</i>
HENRY S. PLUMMER	<i>Medicine, Mayo Foundation</i>
F. C. RODDA	<i>Pediatrics, Mayo Foundation</i>
EDWARD C. ROSENOW	
	<i>Experimental Bacteriology, Mayo Foundation</i>
M. CANNON SNEED	<i>Chemistry</i>
FREDRICK WILLIAM WITTICH	
H. W. WOLTMAN	<i>Neurology, Mayo Foundation</i>

[The number of titles listed for members of the Mayo Foundation elected at this time is too large and the scientific work of the persons named too well known to justify printing the lists.—EDITOR.]

May 20, 1920. Annual banquet and initiation. President-Elect R. E. Scammon addressed the Chapter on the subject of The Relation of the University to Pure Science.

Following the initiation of twenty new members a recess was declared until 4:30 P. M., May 21, when the meeting reconvened at Rochester and the following members of the Mayo Foundation were initiated then: Doctors E. S. Judd, W. C. MacCarty, C. H. Mayo, W. J. Mayo, H. S. Plummer, E. C. Rosenow, H. W. Woltman, and Mr. A. E. Osterberg.

ROYAL N. CHAPMAN, *Secretary*